CLAIM AMENDMENTS

1. (Currently amended) A method of selectively establishing a quality of service value for a particular network device in a network that comprises a plurality of other heterogeneous network devices, comprising the steps of:

receiving application information that defines one or more traffic flows associated with one or more message types generated by an application program, including information identifying one or more points at which ~~an~~ the application generates the traffic flows;

receiving device information that defines one ~~of~~ or more quality of service treatments that the particular network device may apply to data processed by the particular network device;

based on the device information and the application information, determining one or more processing policies that associate the traffic flows with the quality of service treatments;

creating and storing one or more mappings of the application points to the quality of service treatments that may be used with the processing policies to generate the quality of service value when the application program generates traffic flows of one of the message types;

causing generation of the quality of service value, wherein the generation of the quality of service value is based on said one or more mappings and is performed before transmitting said traffic flows of one of the message types to said network;

enforcing one of the processing policies at the particular network device in response to receiving traffic from the application program that matches one of the traffic ~~flow type~~flows of the one of the message types; and

wherein enforcing one of the processing policies comprises:

requesting, using an application QoS policy element that is coupled to the application program, an operating system function to modify a packet of the traffic flows using a policy element that requests a different operating system function according to ~~the~~ an operating system then in use; and

at the particular network device, in response to receiving traffic from the application program that matches the one of the traffic ~~flow type~~ flows of the one of the message types and in response to the operating system function, modifying a portion of the packet to activate a quality of service treatment of the particular network device.

2. (Currently amended) A method as recited in Claim 1, further comprising:

storing the mappings in a repository that is accessible by the application program;

storing both the application information and the device information in the repository; and

converting the mappings into one or more settings of the particular network device.

3. (Previously presented) A method as recited in Claim 1, further comprising:

creating and storing one or more classes that classify the traffic flows, each of the classes associated with one or more of the message types;

based on the device information and the classes of the traffic flows, determining one or more processing policies that associate the traffic flows with the quality of service treatments.

4. (Original) A method as recited in Claim 1, wherein receiving application information comprises receiving one or more application code points that represent traffic flow types.

5. (Canceled)

6. (Currently amended) A method as recited in Claim ~~1~~2, wherein creating and storing one or more mappings comprises creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in the repository.

7. (Currently amended) A method as recited in Claim ~~1~~2, wherein creating and storing one or more mappings comprises creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in a policy store that is coupled to the repository.

8. (Original) A method as recited in Claim 1, wherein creating and storing one or more mappings comprises creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in a directory.

9. (Currently amended) A method as recited in Claim ~~1~~2, wherein creating and storing one or more mappings comprises creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in a policy server coupled to a Lightweight Directory Access Protocol directory that comprises the repository.

10. (Currently amended) A method as recited in Claim ~~1~~2, wherein creating and storing one or more mappings further comprises creating and storing, in the repository, one or more mappings of Application Code Points of the application program to one or more Differential Services Code Points of a protocol associated with the particular network device.

11. (Currently amended) A method as recited in Claim 1, wherein creating and storing one or more mappings further comprises generating one or more messages in RSVP+ () and communicating the messages to the particular network device.

12. (Currently amended) A method as recited in Claim 1, wherein receiving application information comprises receiving application information that defines one or more traffic flows generated by ~~an~~ the application program, including information identifying one or more points at which ~~an~~ the application generates the traffic flows, from a first individual having responsibility for managing enterprise applications in the network, and not from one having responsibility for managing the network.

13. (Currently amended) A method as recited in Claim 12, wherein receiving device information comprises receiving device information that defines one ~~of~~ or more of the quality of service treatments that the particular network device may apply to data processed by the particular network device, from a second individual having responsibility for managing the network.

14. (Original) A method as recited in Claim 1, wherein determining one or more processing policies comprises creating and storing one or more policy statements in a repository, wherein each policy statement associates a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments.

15. (Original) A method as recited in Claim 1, wherein determining one or more processing policies comprises creating and storing one or more policy statements in a repository, wherein each policy statement is represented by a plurality of nodes that represent a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments.

16. (Original) A method as recited in Claim 1, wherein determining one or more processing policies comprises creating and storing one or more policy statements in a directory, wherein each policy statement is represented by a plurality of nodes that represent a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments, and wherein the plurality of nodes is coupled to a root node having a distinguished name in the directory.

17. (Original) A method as recited in Claim 1, wherein each of the mappings comprises an application code point value stored in associated with a differentiated services code point value.

18. (Canceled)

19. (Currently amended) A method of selectively establishing a quality of service value treatment for network traffic passing through a particular device in a data network that

comprises a plurality of other heterogeneous network devices, according to an application program that generates the network traffic, comprising the steps of:

receiving application information that defines one or more traffic flows associated with one or more message types generated by the application program, including one or more application codepoints at which ~~an~~ the application program generates the traffic flows;

receiving device information that defines one or more quality of service treatments that the particular network device is capable of applying to data processed by the particular network device;

based on the device information and the application information, determining one or more processing policies that associate the traffic flows with the quality of service treatments;

creating and storing one or more mappings of the application codepoints to the quality of service treatments that may be used with the processing policies to generate the quality of service value when the application program generates traffic flows of one of the message types;

storing the mappings in a repository that is accessible by the application program;

converting the mappings into one or more messages to the particular network device that instruct the particular network device to apply Differentiated Services quality of service treatment in response to receiving traffic from the application program that matches the traffic flows;

wherein the step of converting the mappings is performed before transmitting said traffic flows of one of the message types to said network;

enforcing one of the processing policies at the particular network device in response to receiving traffic from the application program that matches the traffic ~~flow type~~flows of the one of the message types; and

wherein enforcing one of the processing policies comprises:

requesting, using an application QoS policy element that is coupled to the application program, an operating system function to modify a packet of the traffic flows using a policy element that requests a different operating system function according to ~~the~~ an operating system then in use; and

at the particular network device, in response to receiving traffic from the application program that matches one of the traffic ~~flow type~~ flows of the one of the message types and in response to the operating system function, modifying a portion of the packet to activate a quality of service treatment of the particular network device.

20. (Currently amended) A method of selectively establishing a quality of service value for a particular network device in a network that comprises a plurality of other heterogeneous network devices, comprising the steps of:

receiving application information that defines one or more traffic flows associated with one or more message types generated by an application program, including information identifying one or more points at which ~~an~~ the application program generates the traffic flows;

receiving device QoS information that defines one ~~of~~ or more quality of service treatments that the particular network device may apply to data processed by the particular network device;

based on the device QoS information and the application information, determining one or more processing policies that associate the traffic flows with the quality of service treatments;

creating and storing one or more mappings of the application points to the quality of service treatments that may be used with the processing policies to generate the quality of service value when the application program generates traffic flows for one of the message types;

causing generation of the quality of service value, wherein the generation of the quality of service value is based on said one or more mappings and is performed before transmitting said traffic flows of one of the message types to said network;

enforcing one of the processing policies at the particular network device in response to receiving traffic from the application program that matches the one of the ~~traffic flow type~~flows of the one of the message types; and

wherein enforcing one of the processing policies comprises:

requesting, using an application QoS policy element that is coupled to the application program, an operating system function to modify a packet of the traffic flows using a policy element that requests a different operating system function according to ~~the~~ an operating system then in use; and

at the particular network device, in response to receiving traffic from the application program that matches the one of the traffic ~~flow type~~ flows of the one of the message types and in response to the operating system function, modifying a portion of the packet to activate a quality of service treatment of the particular network device.

21. (Currently amended) A computer-readable storage medium carrying one or more sequences of instructions which, when executed by one or more processors, cause the one or more processors to selectively establish a quality of service value for a particular network device in a network that comprises a plurality of other heterogeneous network devices, by carrying out the steps of:

receiving application information that defines one or more traffic flows associated with one or more message types generated by ~~an~~ the application program, including information identifying one or more points at which ~~an~~ the application generates the traffic flows;

receiving device information that defines one ~~of~~ or more quality of service treatments that the particular network device may apply to data processed by the particular network device;

based on the device information and the application information, determining one or more processing policies that associate the traffic flows with the quality of service treatments;

creating and storing one or more mappings of the application points to the quality of service treatments that may be used with the processing policies to generate the quality of service value when the application program generates traffic flows for one of the message types;

causing generation of the quality of service value, wherein the generation of the quality of service value is based on said one or more mappings and is performed before transmitting said traffic flows of one of the message types to said network;

enforcing one of the processing policies at the particular network device in response to receiving traffic from the application program that matches one of the traffic ~~flow type~~flows of the one of the message types; and

wherein enforcing one of the processing policies comprises:

requesting, using an application QoS policy element that is coupled to the application program, an operating system function to modify a packet of the traffic flows using a policy element that requests a different operating system function according to ~~the~~ an operating system then in use; and

at the particular network device, in response to receiving traffic from the application program that matches the one of the traffic ~~flow type~~ flows of the one of the message types and in response to the operating system function, modifying a portion of the packet to activate a quality of service treatment of the particular network device.

22. (Currently amended) A computer-readable storage medium as recited in Claim 21, further comprising instructions for carrying out the steps of:

storing the mappings in a repository that is accessible by the application program;

storing both the application information and the device information in the repository; and

converting the mappings into one or more settings of the particular network device.

23. (Previously presented) A computer-readable storage medium as recited in Claim 21, further comprising instructions for carrying out the steps of:

creating and storing one or more classes that classify the traffic flows, each of the classes associated with one or more of the message types;

based on the device information and the classes of the traffic flows, determining one or more processing policies that associate the traffic flows with the quality of service treatments.

24. (Currently amended) A computer-readable storage medium as recited in Claim ~~21~~22, further comprising instructions for carrying out the steps of creating and storing one or more mappings by creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in the repository.

25. (Currently amended) A computer-readable storage medium as recited in Claim ~~21~~22, further comprising instructions for carrying out the steps of creating and storing one or more mappings by creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in a policy server coupled to a Lightweight Directory Access Protocol directory that comprises the repository.

26. (Currently amended) A computer-readable storage medium as recited in Claim ~~21~~22, further comprising instructions for carrying out the steps of creating and storing one or more mappings by creating and storing, in the repository, one or more mappings of Application Code Points of the application program to one or more Differential Services Code Points of a protocol associated with the particular network device.

27. (Original) A computer-readable storage medium as recited in Claim 21, further comprising instructions for carrying out the steps of determining one or more processing policies by creating and storing one or more policy statements in a repository, wherein each policy statement associates a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments.

28. (Original) A computer-readable storage medium as recited in Claim 1, further comprising instructions for determining one or more processing policies by creating and storing one or more policy statements in a directory, wherein each policy statement is represented by a plurality of nodes that represent a condition of one of the traffic flows, and operator, an operand, and an action comprising one of the quality of service treatments, and wherein the plurality of nodes is coupled to a root node having a distinguished name in the directory.

29. (Currently amended) A method of selectively establishing a quality of service value for a particular network device in a network that comprises a plurality of other heterogeneous network devices, comprising the steps of:

receiving and storing, in a directory server, application information that defines one or more traffic flows for one or more message types generated by an application program, including information identifying one or more code points at which ~~an~~ the application program generates the traffic flows;

receiving and storing, in the directory server, device information that defines one ~~of~~ or more quality of service treatments that the particular network device may apply to data processed by the particular network device;

based on the device information and the application information, creating and storing a first policy mapping that associates the traffic flows with the quality of service treatments; and

creating and storing a second mapping of the application code points to the quality of service treatments that may be used with the first policy mapping to generate the

quality of service value when the application program generates traffic flows for one of the message types;

causing generation of the quality of service value, wherein the generation of the quality of service value is based on said ~~one or more~~ mappings and is performed before transmitting said traffic flows of one of the message types to said network;

enforcing ~~one of the~~ processing policies at the particular network device in response to receiving traffic from the application program that matches the one or more of the traffic ~~flow type~~flows of the one of the message types; and

wherein enforcing ~~one of~~ the processing policies comprises:

requesting, using an application QoS policy element that is coupled to the application program, an operating system function to modify a packet of the traffic flows using a policy element that requests a different operating system function according to ~~the~~ an operating system then in use; and

at the particular network device, in response to receiving traffic from the application program that matches the one or more of the traffic ~~flow type~~ flows of the one of the message types and in response to the operating system function, modifying a portion of the packet to activate a quality of service treatment of the particular network device.

30. (Currently amended) An apparatus for selectively establishing a quality of service value for a particular network device in a network that comprises a plurality of other heterogeneous network devices, comprising:

a network interface that is communicatively coupled to the network for receiving packet flows therefrom;

one or more processors; and

a computer-readable medium carrying one or more sequences of instructions which, when executed by the one or more processors, cause the one or more processors to selectively establish a quality of service value for a particular network device in

a network that comprises a plurality of other heterogeneous network devices, by carrying out ~~the methods and steps of any of Claims 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, or 29~~;

receiving application information that defines one or more traffic flows associated with one or more message types generated by an application program, including information identifying one or more points at which the application generates the traffic flows;

receiving device information that defines one or more quality of service treatments that the particular network device may apply to data processed by the particular network device;

based on the device information and the application information, determining one or more processing policies that associate the traffic flows with the quality of service treatments;

creating and storing one or more mappings of the application points to the quality of service treatments that may be used with the processing policies to generate the quality of service value when the application program generates traffic flows of one of the message types;

causing generation of the quality of service value, wherein the generation of the quality of service value is based on said one or more mappings and is performed before transmitting said traffic flows of one of the message types to said network;

enforcing one of the processing policies at the particular network device in response to receiving traffic from the application program that matches the one or more of the traffic flows of the one of the message types; and

wherein enforcing one of the processing policies comprises:

requesting, using an application QoS policy element that is coupled to the application program, an operating system function to modify a packet of

the traffic flows using a policy element that requests a different operating system function according to an operating system then in use; and

at the particular network device, in response to receiving traffic from the application program that matches the one or more of the traffic flows of the one of the message types and in response to the operating system function, modifying a portion of the packet to activate a quality of service treatment of the particular network device.

31. (New) An apparatus as recited in Claim 31, further comprising one or more sequences of instructions which, when executed by the one or more processors, cause the one or more processors to perform:

storing the mappings in a repository that is accessible by the application program;

storing both the application information and the device information in the repository; and

converting the mappings into one or more settings of the particular network device.

32. (New) An apparatus as recited in Claim 30, further comprising one or more sequences of instructions which, when executed by the one or more processors, cause the one or more processors to perform:

creating and storing one or more classes that classify the traffic flows, each of the classes associated with one or more of the message types;

based on the device information and the classes of the traffic flows, determining one or more processing policies that associate the traffic flows with the quality of service treatments.

33. (New) An apparatus as recited in Claim 30, wherein the instructions for receiving application information comprise instructions for receiving one or more application code points that represent traffic flow types.

34. (New) An apparatus as recited in Claim 31, wherein the instructions for creating and storing one or more mappings comprise instructions for creating and storing one or more

policies, concerning network processing of traffic flows generated by the application program, in the repository.

35. (New) An apparatus as recited in Claim 31, wherein the instructions for creating and storing one or more mappings comprise instructions for creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in a policy store that is coupled to the repository.

36. (New) An apparatus as recited in Claim 30, wherein the instructions for creating and storing one or more mappings comprise instructions for creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in a directory.

37. (New) An apparatus as recited in Claim 31, wherein the instructions for creating and storing one or more mappings comprise instructions for creating and storing one or more policies, concerning network processing of traffic flows generated by the application program, in a policy server coupled to a Lightweight Directory Access Protocol directory that comprises the repository.

38. (New) An apparatus as recited in Claim 31, wherein the instructions for creating and storing one or more mappings further comprise instructions for creating and storing, in the repository, one or more mappings of Application Code Points of the application program to one or more Differential Services Code Points of a protocol associated with the particular network device.

39. (New) An apparatus as recited in Claim 30, wherein the instructions for creating and storing one or more mappings further comprise instructions for generating one or more messages in RSVP+ () and communicating the messages to the particular network device.

40. (New) An apparatus as recited in Claim 30, wherein the instructions for receiving application information comprise receiving application information that defines one or more traffic flows generated by the application program, including information identifying one or more points at which the application generates the traffic flows, from a

first individual having responsibility for managing enterprise applications in the network, and not from one having responsibility for managing the network.

41. (New) An apparatus as recited in Claim 40, wherein the instructions for receiving device information comprise instructions for receiving device information that defines one or more of the quality of service treatments that the particular network device may apply to data processed by the particular network device, from a second individual having responsibility for managing the network.

42. (New) An apparatus as recited in Claim 30, wherein the instructions for determining one or more processing policies comprise instructions for creating and storing one or more policy statements in a repository, wherein each policy statement associates a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments.

43. (New) An apparatus as recited in Claim 30, wherein the instructions for determining one or more processing policies comprise instructions for creating and storing one or more policy statements in a repository, wherein each policy statement is represented by a plurality of nodes that represent a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments.

44. (New) An apparatus as recited in Claim 30, wherein the instructions for determining one or more processing policies comprise instructions for creating and storing one or more policy statements in a directory, wherein each policy statement is represented by a plurality of nodes that represent a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments, and wherein the plurality of nodes is coupled to a root node having a distinguished name in the directory.

45. (New) A method as recited in Claim 30, wherein each of the mappings comprises an application code point value stored in associated with a differentiated services code point value.